

**ABSTRACT**

The present invention relates to compositions and methods for promoting tissue regeneration, preferably neural tissue regeneration. Compositions of the invention include (i) 5 certain diphenyl sulfides, diphenyl sulfoxides, diphenyl sulfones, and sulfide, sulfoxide and sulfones of dibenzothiophene and thioxanthene, as well as various analogues and derivatives of these compounds; (ii) one or more cells harvested from an animal or organism subsequent to the administration of a composition comprising a compound of (i); or (iii) any combination of (i) and 10 (ii). The invention can be useful in treating decreases in neuronal function, for example from injury or disease.